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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,092	12/17/2001	Manuel Burger	BURGER-2	2901

7590 10/15/2004

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1077 Northern Boulevard  
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EXAMINER
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EDWARDS, LAURA ESTELLE

ART UNIT	PAPER NUMBER
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1734

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/022,092	Applicant(s) BURGER, MANUEL	
	Examiner Laura Edwards	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 25-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, and 4-24 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Election/Restrictions***

This application contains claims 25-38 drawn to an invention nonelected without traverse. A complete response should include cancellation of nonelected claims.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a bending unit engaging two end sections of a single pipe as recited in claim 2 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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***Claim Objections***

Claim 3 is objected to because of the following informality: in line 2, "comprises" should be changed to --comprise--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification as originally filed sets forth the ability of a single bending unit to bend two ends of a single pipe as disclosed on page 2, lines 7-8, however, the specification as originally filed does not disclose how one would use a single bending unit on a single pipe to engage two [opposite] ends of said single pipe. The detailed description (page 11) does not teach, suggest, or imply that the carriage moveable track limited bending unit can bend the pipe into a complete circle such the two ends of the pipe would be held by a single bending unit as claimed.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Crupi (US 4,747,768).

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Crupi teaches a process for shaping and processing at least one pipe with a plurality of adjustable bending units comprising the steps of providing an apparatus for bending the at least one pipe or tube (T), the apparatus including bending units (14, 15), the bending units moving along the at least one pipe; and performing a plurality of simultaneous bending operations on the pipe.

With respect to claim 23, see col. 6, lines 63-67.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Uehara et al (US 4,351,178).

Uehara et al teach a process for shaping and processing at least one pipe with a plurality of adjustable bending units comprising the steps of providing an apparatus for bending the at least one pipe or tube (14), the apparatus including bending units (6), the bending units moving along the at least one pipe; and performing a plurality of simultaneous bending operations on the pipe.

Claims 1, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al (JP 55-42135), newly applied.

Murakami et al teach a process for shaping and processing at least one pipe with a plurality of adjustable bending units comprising the steps of providing an apparatus for bending the at least one pipe (1), the apparatus including bending units (3, 3', 3''), the bending units being [profiled or grooved] rollers moving along the at least one pipe; and performing a plurality of simultaneous bending operations on the pipe.

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With respect to claim 5, see bottom of Fig. 5 whereby a double roller arrangement is provided on both sides of die member (2').

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crupi (US 4,747,768) in view of Maier (US 4,009,982).

The teachings of Crupi have been mentioned above but Crupi fails to teach or suggest the use of sealing nipples at the end sections of a pipe. However, it was known in the art, at the time the invention was made, to provide sealing nipples at end sections of a pipe in order to form flanges for pipe coupling as evidenced by Maier (see col. 2, lines 19-23, lines 56-66; col. 4, lines 34-39). It would have been obvious to one of ordinary skill in the art to provide sealing nipples as taught by Maier in the Crupi bending process in order to manufacture end sections for pipe coupling.

Claims 10-14 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crupi (US 4,747,768) in view of Parmann (US 3,965,715).

The teachings of Crupi have been mentioned above but Crupi fails to teach or suggest heating a pipe to facilitate bending of the pipe. However, it was known in the art at the time the invention was made, to utilize heat application to a pipe internally and/or externally during

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processing so as to facilitate bending of the pipe without damage thereto as evidenced by Parmann (see col. 1, lines 12-24; col. 2, lines 14-21; and col. 5, lines 23-37). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate heat processing as taught by Parmann in the bending process of Crupi in order to facilitate the bending and/or shaping of the pipe without damage thereto.

With respect to claims 18-20, see Parmann, col. 6, lines 33-38.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crupi (US 4,747,768) and Parmann (US 3,965,715) as applied to claims 10-14 and 17-21 above and further in view of Kodama et al (US 5,422,048).

The teachings of Crupi and Parmann have been mentioned above but none teach the use of a radiation heater (i.e., IR). However, it was known in the art at the time the invention was made, to utilize a radiation heat source to rapidly and cheaply heat a pipe during bending processing as evidenced by Kodama et al (see col. 3, lines 1-24). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate radiation heat processing as taught by Kodama et al in the bending process defined by the combination above in order to reduce bending processing time and costs.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crupi (US 4,747,768) in view of Schwarze (US 4,137,743).

The teachings of Crupi have been mentioned above but Crupi is silent concerning the use of a flexible core member in the pipe, however, it was known in the art, at the time the invention

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was made, to provide a flexible core member or mandrel within a pipe in order to prevent collapse of the pipe while bending as evidenced by Schwarze (see col. 6, lines 10-50). It would have been obvious to one of ordinary skill in the art to further provide a flexible mandrel as taught by Schwarze in the Crupi bending process in order to prevent collapse or damage to the pipe during bending.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uehara et al (US 4351,178) in view of Maier (US 4,009,982).

The teachings of Uehara et al have been mentioned above but Uehara et al do not teach or suggest the use of sealing nipples at the end sections of a pipe. However, it was known in the art, at the time the invention was made, to provide sealing nipples at end sections of a pipe in order to form flanges for pipe coupling as evidenced by Maier (see col. 2, lines 19-23, lines 56-66; col. 4, lines 34-39). It would have been obvious to one of ordinary skill in the art to provide sealing nipples are taught by Maier in the bending process of Uehara et al in order to manufacture end sections for pipe coupling.

Claims 10-14, 17-21, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uehara et al (US 4,351,178) in view of Parmann (US 3,965,715).

The teachings of Uehara et al have been mentioned above but Uehara et al fail to teach or suggest heating a pipe to facilitate bending of the pipe. However, it was known in the art at the time the invention was made, to utilize heat application to a pipe internally and/or externally during processing so as to facilitate bending of the pipe without damage thereto as evidenced by



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Parmann (see col. 1, lines 12-24; col. 2, lines 14-21; and col. 5, lines 23-37). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate heat processing as taught by Parmann in the Uehara et al bending process in order to facilitate the bending and/or shaping of the pipe without damage thereto.

With respect to claims 18-20, see Parmann, col. 6, lines 33-38.

With respect to claim 23, the combination taught by Uehara et al and Parmann provides for internal pressurized heating of a pipe as Parmann recognizes hot compressed air being supplied to the interior of a pipe section in col. 6, lines 34-42.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uehara et al (US 4,351,178) and Parmann (US 3,965,715) as applied to claims 10-14, 17-21, and 23 above and further in view of Kodama et al (US 5,422,048).

The teachings of Uehara et al and Parmann have been mentioned above but none teach the use of a radiation heater (i.e., IR). However, it was known in the art at the time the invention was made, to utilize a radiation heat source to rapidly and cheaply heat a pipe during bending processing as evidenced by Kodama et al (see col. 3, lines 1-24). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate radiation heat processing as taught by Kodama et al in the bending process defined by the combination above in order to reduce bending processing time and costs.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uehara et al (US 4,351,178) in view of Schwarze (US 4,137,743).

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The teachings of Uehara et al have been mentioned above but Uehara et al are silent concerning the use of a flexible core member in a pipe section, however, it was known in the art, at the time the invention was made, to provide a flexible core member or mandrel within a pipe in order to prevent collapse of the pipe while bending as evidenced by Schwarze (see col. 6, lines 10-50). It would have been obvious to one of ordinary skill in the art to further provide a flexible mandrel as taught by Schwarze in the Uehara et al bending process in order to prevent collapse or damage to the pipe during bending.

Claims 6-8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al (JP 55-42135), newly applied) in view of Evert et al (US 4,704,886, newly applied).

The teachings of Murakami et al have been mentioned above but Murakami et al are silent concerning the use of gripping pliers for gripping outer ends of the pipe during bending. However, it was known in the art, at the time the invention was made, to provide gripping pliers at the ends of a pipe to provide suitable tension along the pipe during bending as evidenced by Evert et al (see col. 3, lines 16-30 and col. 4, lines 32-40). It would have been obvious to one of ordinary skill in the art to provide gripping pliers as taught by Evert et al at the ends of the pipe in the Murakami et al bending process in order to provide suitable tension along the pipe during bending.

With respect to claim 7, the gripping pliers of Evert et al are deemed profiled pliers as they grip the ends of a pipe without deformation of the pipe during the bending process as evidenced by col. 4, lines 1-9.

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With respect to claim 8, the combination as defined by above would include sealing nipples or plugs as such are incorporated with the pliers to prevent deformation of the pipe ends as evidenced by col. 4, lines 32-40 of Evert et al.

With respect to claim 23, the combination as defined by above would provide for an internally pressurized pipe during bending as evidenced by col. 4, lines 32-40 of Evert et al.

Claims 10-14 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al (JP 55-42135), newly applied) in view of Parmann (US 3,965,715).

The teachings of Murakami et al have been mentioned above but Murakami et al are silent concerning heating a pipe to facilitate bending of the pipe. However, it was known in the art at the time the invention was made, to utilize heat application to a pipe internally and/or externally during processing so as to facilitate bending of the pipe without damage thereto as evidenced by Parmann (see col. 1, lines 12-24; col. 2, lines 14-21; and col. 5, lines 23-37). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate heat processing as taught by Parmann in the Murakami et al bending process in order to facilitate the bending and/or shaping of the pipe without damage thereto.

With respect to claims 18-20, see Parmann, col. 6, lines 33-38.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al (JP 55-42135), newly applied) and Parmann (US 3,965,715) as applied to claims 10-14 and 17-21 above and further in view of Kodama et al (US 5,422,048).

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The teachings of Murakami et al and Parmann have been mentioned above but none teach the use of a radiation heater (i.e., IR). However, it was known in the art at the time the invention was made, to utilize a radiation heat source to rapidly and cheaply heat a pipe during bending processing as evidenced by Kodama et al (see col. 3, lines 1-24). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate radiation heat processing as taught by Kodama et al in the bending process defined by the combination above in order to reduce bending processing time and costs.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al (JP 55-42135), newly applied) in view of Schwarze (US 3,965,715).

The teachings of Murakami et al have been mentioned above but Murakami et al are silent concerning the use of a flexible core member in a pipe section, however, it was known in the art, at the time the invention was made, to provide a flexible core member or mandrel within a pipe in order to prevent collapse of the pipe while bending as evidenced by Schwarze (see col. 6, lines 10-50). It would have been obvious to one of ordinary skill in the art to further provide a flexible mandrel as taught by Schwarze in the Murakami et al bending process in order to prevent collapse or damage to the pipe during bending.

#### *Allowable Subject Matter*

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Response to Arguments*

Applicant's argument filed 8/30/04 has been fully considered but is not persuasive.

Applicant contends that none of the cited references disclose or suggest a process of using discrete bending stations, which can be positioned freely and operated simultaneously to form all types of tubes or pipes. This argument is not deemed persuasive because Crupi, Uehara et al, and Murakami et al as cited above all teach moving bending units freely or unobstructedly along a pipe while simultaneously bending the pipe. Crupi provides various types of actuators (16 or 17, see col. 4, lines 65+; col. 5, lines 26-28) to move the bending units freely or unobstructedly along the pipe. Uehara et al provide a computer-controlled motor to actuate the bending units (see col. 3, lines 15-44) to move freely or unobstructedly along the pipe. Murakami et al teach show that the bending units are simultaneously moved freely or unobstructedly along the pipe via arrows as in Fig. 1. As Applicant uses actuating means to freely move the bending units along the pipe (see pages 5 and 6 of the instant specification) Crupi, Uehara et al, and Murakami et al do the same. Therefore, Crupi, Uehara et al, and Murakami et al anticipate Applicant's invention as broadly recited in claim 1.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

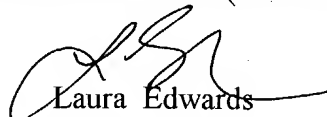
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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Edwards whose telephone number is (571) 272-1227. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Laura Edwards  
Primary Examiner  
Art Unit 1734

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October 13, 2004